



State of Alabama
Department of Finance
Division of Purchasing
Master Agreement
Modification

CONTRACT INFORMATION

MASTER AGREEMENT NUMBER: MA 999 180000000285

NOT TO EXCEED AMOUNT:

Begin Date: 06/18/2018

Procurement Folder: 593931

Expiration Date: 06/18/2020

Procurement Type: Master Agreement

Solicitation Number:

Replaces Award Document:

Award Date:

Replaced by Award Document:

Modification Date: 06/26/19

Version Number: 2

CONTACT INFORMATION

REQUESTOR:

Patrick Hemme

334-242-7173

Pat.Hemme@purchasing.alabama.gov

ISSUER:

Patrick Hemme

334-242-7173

Pat.Hemme@purchasing.alabama.gov

BUYER:

Patrick Hemme

334-242-7173

Pat.Hemme@purchasing.alabama.gov

CONTRACT DESCRIPTION

MA-HERBICIDE SPRAYERS

Ship To:

ALA DEPT OF TRANSPORTATION STATEWIDE

. AL

Bill To:

ALA DEPT OF TRANSPORTATION SEE BELOW

. MONTGOMERY AL 36110

REASON FOR MODIFICATION

VENDOR INFORMATION

Name /Address:

VS000022356: IVM Solutions

DBA: Roadside Inc

2038 Lee Rd 137, #51

Auburn AL 36832

Contact:

HAZEL LANGFORD

334-887-1373 EXT: 200

hazell@roadsideinc.com

COMMODITY / SERVICE INFORMATION

Line	Quantity	UOM	Unit Price	Service Amount	Service From	Service To	Line Sub Total	Line Total
1	0	EA	\$69,086.380000	\$0.00			\$0.00	\$0.00

81085 - Spray Equipment, Pesticide, Machine Powered, Commercial
 1600 GALLON SPRAY SYSTEM OPTION A
 1600 GALLON HERBICIDE SPRAYER OPTION A COMPUTER CONTROLLED. ONE-MAN, NEW-LATEST MODEL.
 SEE ATTACHED SPECIFICATIONS.
 (ATTENUATOR TO BE SUPPLIED BY PURCHASER AND INSTALLED BY VENDOR)

YOU MUST LIST YOUR MAKE AND MODEL IN THE SPACE BELOW. FAILURE TO DO SO WILL RESULT IN REJECTION OF YOUR BID.

MAKE: _____
 MODEL: _____

Line	Quantity	UOM	Unit Price	Service Amount	Service From	Service To	Line Sub Total	Line Total
2	0	EA	\$69,086.380000	\$0.00			\$0.00	\$0.00

81085 - Spray Equipment, Pesticide, Machine Powered, Commercial
 1600 GALLON SPRAY SYSTEM OPTION B
 1600 GALLON HERBICIDE SPRAYER OPTION B COMPUTER CONTROLLED. ONE-MAN, NEW-LATEST MODEL.
 SEE ATTACHED SPECIFICATIONS.
 (ATTENUATOR TO BE SUPPLIED BY PURCHASER AND INSTALLED BY VENDOR)

YOU MUST LIST YOUR MAKE AND MODEL IN THE SPACE BELOW. FAILURE TO DO SO WILL RESULT IN REJECTION OF YOUR BID.

MAKE: _____
 MODEL: _____

Line	Quantity	UOM	Unit Price	Service Amount	Service From	Service To	Line Sub Total	Line Total
3	0	EA	\$23,979.400000	\$0.00			\$0.00	\$0.00

81085 - Spray Equipment, Pesticide, Machine Powered, Commercial
 1,000 GALLON SKID MOUNTED
 1,000 GALLON SKID MOUNTED SPRAYER.
 SEE ATTACHED SPECIFICATIONS.

YOU MUST LIST YOUR MAKE AND MODEL IN THE SPACE BELOW. FAILURE TO DO SO WILL RESULT IN REJECTION OF YOUR BID.

MAKE: _____
 MODEL: _____

Line	Quantity	UOM	Unit Price	Service Amount	Service From	Service To	Line Sub Total	Line Total
4	0	EA	\$10,649.230000	\$0.00			\$0.00	\$0.00

81085 - Spray Equipment, Pesticide, Machine Powered, Commercial
 200 GALLON, 3-POINT HITCH SPRAYER
 200 GALLON, 3 POINT HITCH HERBICIDE SPRAYER.

SEE ATTACHED SPECIFICATIONS.

YOU MUST LIST YOUR MAKE AND MODEL IN THE SPACE BELOW. FAILURE TO DO SO WILL RESULT IN REJECTION OF YOUR BID.

MAKE: _____
 MODEL: _____

Line	Quantity	UOM	Unit Price	Service Amount	Service From	Service To	Line Sub Total	Line Total
5	0	EA	\$4,345.000000	\$0.00			\$0.00	\$0.00

81085 - Spray Equipment, Pesticide, Machine Powered, Commercial
 200 GALLON SKID MOUNTED

COMMODITY / SERVICE INFORMATION

200 GALLON SKID MOUNTED HERBICIDE SPRAY TANK.

SEE ATTACHED SPECIFICATIONS.

YOU MUST LIST YOUR MAKE AND MODEL IN THE SPACE BELOW. FAILURE TO DO SO WILL RESULT IN REJECTION OF YOUR BID.

MAKE: _____

MODEL: _____

Line	Quantity	UOM	Unit Price	Service Amount	Service From	Service To	Line Sub Total	Line Total
6	0	EA	\$1,018.980000	\$0.00			\$0.00	\$0.00

81085 - Spray Equipment, Pesticide, Machine Powered, Commercial
SPRAY GUNHANDGUN, (#43 SPRAYING SYSTEM OR EQUAL) AND MANUAL HOSE REEL WITH A MINIMUM OF 100 FT. OF 0.5" 600 PSI SPRAY HOSE.
THE HANDGUN SHALL BE EQUIPPED WITH A FLOW METER IN THE FEED LINE TO CONTROL THE CHEMICAL INJECTION SYSTEM PUMPS
WHEN HAND GUN IS IN OPERATION.

YOU MUST LIST YOUR MAKE AND MODEL IN THE SPACE BELOW. FAILURE TO DO SO WILL RESULT IN REJECTION OF YOUR BID.

MAKE: _____

MODEL: _____

Line	Quantity	UOM	Unit Price	Service Amount	Service From	Service To	Line Sub Total	Line Total
7	0	EA	\$1,302.350000	\$0.00			\$0.00	\$0.00

81085 - Spray Equipment, Pesticide, Machine Powered, Commercial
LOW FLOW MONITOR

LOW FLOW MONITOR INSTALLED IN EACH CHEMICAL TANK TO WARN OPERATOR OF A MALFUNCTION IN CHEMICAL DELIVERY.

YOU MUST LIST YOUR MAKE AND MODEL IN THE SPACE BELOW. FAILURE TO DO SO WILL RESULT IN REJECTION OF YOUR BID.

MAKE: _____

MODEL: _____

Line	Quantity	UOM	Unit Price	Service Amount	Service From	Service To	Line Sub Total	Line Total
8	0	EA	\$414.590000	\$0.00			\$0.00	\$0.00

81085 - Spray Equipment, Pesticide, Machine Powered, Commercial
STORAGE BOXSTORAGE BOX, 18" WIDTH X 18" VERTICAL DROP AND LENGTH AS SPACE WILL ALLOW MOUNTED UNDER THE BED ON THE DRIVERS
SIDE OF THE VEHICLE BETWEEN AXLES.

Line	Quantity	UOM	Unit Price	Service Amount	Service From	Service To	Line Sub Total	Line Total
9	0	EA	\$18,210.470000	\$0.00			\$0.00	\$0.00

81085 - Spray Equipment, Pesticide, Machine Powered, Commercial
SPRAY BOOM EXTENDABLE ARTICULATINGSPRAY BOOM, EXTENDABLE ARTICULATING, HYDRAULICALLY CONTROLLED, CAPABLE OF PRODUCING A MINIMUM OF 50 FT. OF
SPRAY WIDTH USING TWO (2) BOOMLESS SPRAY HEADS AND A TWO SECTION BOOM ASSEMBLY.

Line	Quantity	UOM	Unit Price	Service Amount	Service From	Service To	Line Sub Total	Line Total
10	0	EA	\$10,054.800000	\$0.00			\$0.00	\$0.00

81085 - Spray Equipment, Pesticide, Machine Powered, Commercial
RETROFITTING EXISTING VEHICLES
RETROFITTING EXISTING VEHICLE

SEE ATTACHED SPECIFICATIONS.

Line	Quantity	UOM	Unit Price	Service Amount	Service From	Service To	Line Sub Total	Line Total
11	0	EA	\$4,000.000000	\$0.00			\$0.00	\$0.00

81085 - Spray Equipment, Pesticide, Machine Powered, Commercial
TRANSFER EXTENDABLE ARTICULATED BOOM

COMMODITY / SERVICE INFORMATION

TRANSFER EXTENDABLE ARTICULATING SPRAY BOOM AND ACCESSORIES FROM EXISTING TRUCK TO NEW PURCHASED TRUCK AT VENDOR'S LOCATION

Line	Quantity	UOM	Unit Price	Service Amount	Service From	Service To	Line Sub Total	Line Total
12	0	EA	\$1,825.350000	\$0.00			\$0.00	\$0.00

81085 - Spray Equipment, Pesticide, Machine Powered, Commercial
30 GALLON CONE TYPE TANK
30 GALLON CONE TYPE TANK WITH 1.8 GPM 12-VOLT ELECTRIC PUMP. AA23L TEEJET HAND GUN WITH 25 FT. OF 3/8" REINFORCED CLEAR SPRAY HOSE.

Line	Quantity	UOM	Unit Price	Service Amount	Service From	Service To	Line Sub Total	Line Total
13	0		\$0.000000	\$0.00			\$0.00	\$0.00

81085 - Spray Equipment, Pesticide, Machine Powered, Commercial
REPLACEMENT PARTS
REPLACEMENT PARTS:

Enter your % off manufacturer's List below:

_____ % OFF MANUFACTURER'S LIST PRICE

Line	Quantity	UOM	Unit Price	Service Amount	Service From	Service To	Line Sub Total	Line Total
14	0	HOURL	\$125.000000	\$0.00			\$0.00	\$0.00

81085 - Spray Equipment, Pesticide, Machine Powered, Commercial
HOURLY RATE FOR REPAIRS
HOURLY RATE FOR REPAIRS

Final

All terms, conditions, and any amendments to solicitation are part of this contract as if fully reproduced herein .

Approved:



Purchasing Director

APPROVALS			
Date	Status Before	Status After	Approver

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Authority:

The Department of Finance Code of Administrative procedure, Chapter 356-4-1 effective September 7, 2012 is incorporated by reference and made a part of this document. To view the Code of Administrative procedures visit our website www.purchasing.alabama.gov.

Choice of Law; Venue:

This Contract will be governed by laws of the State of Alabama and the sole venue for litigation and alternative dispute resolution activities will be the City of Montgomery in the State of Alabama.

Not to Constitute a Debt of the State:

The terms and commitments contained in the RFB, or any contract resulting from this RFB, shall not constitute a debt of the State of Alabama, the incurring of which is prohibited by Section 213 of the Official Recompilation of the Constitution of Alabama, 1901, as amended by Amendment No. 26.

Bid Response Instructions:

In order to submit a responsive bid, bidder must read and follow all instructions, terms, conditions and specifications of this solicitation.

1. Bid envelope(s)/package(s)/box(es) must be identified with the bid number and opening date. Each individual bid must be submitted in a separate envelope. Responses to multiple bid numbers submitted in the same package that are not in separate envelopes and properly identified will be rejected. The Division of Purchasing does not assume responsibility for late bids for any reason including those due to postal or courier service. Bid responses must be in the Division of Purchasing office prior to the "close date and time" indicated on the bid.
2. Bid responses must be in ink or typed on this document, or replicated in the exact format. Signatures must be handwritten originals in ink or the bid will be rejected. Unless indicated in the bid, all price pages must be completed and returned. If an item is not being bid, identify it as N/B (no-bid). Pages should be secured. The Division of Purchasing does not assume responsibility for missing pages. Faxed/emailed bid responses will not be accepted.
3. The unit price always governs regardless of the extended amount. A unit price change on a line must be initialed by the person signing the bid or that line will be rejected. Price changes include but are not limited to cross-out, strike-over, ink-over, white-out, erasure, or any other method changing the price.
4. The Division of Purchasing requires an original and a minimum of one exact copy of the signed, notarized bid to include any required addendum(s) and documentation. The original and the copy should be submitted together as a bid package.
5. An improperly submitted bid, late bid or a bid that is canceled on or before the opening date may be retrieved during normal business hours. These bids will be held for 90 days then destroyed. The Division of Purchasing assumes no responsibility for the document after 90 days. Bids retrieved by vendor(s) are considered withdrawn and vendor(s) relinquishes all rights to protest.

Bid rejection:

Bidders shall not place any qualification, exceptions, conditions, reservations, limitations, or substitutions in their bid concerning the contract terms and conditions. Any such qualifications, exceptions, conditions, reservations, limitations or substitutions shall result in rejection of the bid.

Bids that are improperly submitted or received late will be documented for record but will not be returned nor will bidder be notified.

The following is a partial list whereby a bid response will be rejected:

Bid number not on envelope/package/box
 Bid responses with multiple bid numbers in same envelope not properly identified
 Bid responses received late
 Bid responses not signed/not original signature
 Bid responses not notarized/not original signature of notary and/or notary expiration
 Bidder notarized own signature
 Required information not submitted with bid response
 Failure to submit the original bid and a complete exact copy
 Bid response received from non-subscribed/expired vendor

Beason-Hammon Alabama taxpayer and Citizen Protection Act (Act 2011-535 and as amended by Act 2012-491)

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As a condition for award of this bid, the vendor acknowledges the following:

“By signing this contract, the contracting parties affirm, for the duration of any agreement that they will not violate federal immigration law or knowingly employ, hire for employment, or continue to employ an unauthorized alien within the State of Alabama. Furthermore, a contracting party found to be in violation of this provision shall be deemed in breach of the agreement and shall be responsible for all damages resulting therefrom.”

Verification of enrollment in the E-verify program will be required prior to any award to a vendor who employs one or more employees within the State of Alabama. E-verify documentation should be identified with the bid number and the buyer name. Failure to provide documentation within 5 calendar days of notification will result in the rejection of your bid. To enroll in the E-verify program visit www.dhs.gov/e-verify.

Certification Pursuant to Act no. 2006-557

Alabama Law (section 41-4-116, Code of Alabama 1975) provides that every bid submitted and contract executed shall contain a certification that the vendor, contractor, and all of its affiliates that make sales for delivery into Alabama or leases for use in Alabama are registered, collecting, and remitting Alabama state and local sales, use, and/or lease tax on all taxable sales and leases into Alabama. By submitting this bid, the bidder is hereby certifying that they are in full compliance with Act no. 206-557, they are not barred from bidding or entering into a contract pursuant to 41-4-116, and acknowledges that the awarding authority may declare the contract void if the certification is false.

Information and assistance to minority and women-owned businesses in acquiring M/WBE certification may be obtained from the office of minority business enterprises at www.adeca.alabama.gov

In compliance with Act 2016-312, by submitting this bid the contractor hereby certifies that it is not currently engaged in, and will not engage in, the boycott of a person or an entity based in or doing business with a jurisdiction with which this state can enjoy open trade.

*****STANDARD TERMS and CONDITIONS*****

Vendor Registration and Subscription Fee

Vendors may receive bid notices by registering at the State of Alabama vendor self-service (VSS) portal, <https://procurement.staars.alabama.gov>. Vendors wishing to respond to bids must be subscribed. Bid responses will not be accepted from non-subscribed vendors. Once registered you may subscribe by clicking the “pay subscription fee” tab at the top of the VSS home page. Payments must be made by credit or debit card. Vendors should provide their VSS assigned vendor number on all bid responses. A vendor’s subscription must be maintained throughout the term of an awarded contract, to include renewal periods.

Non-appropriation of funds

Continuation of any agreement between the State and a bidder beyond a fiscal year is contingent upon continued legislative appropriation of funds for the purpose of this bid and any resulting agreement. Non-availability of funds at any time shall cause any agreement to become void and unenforceable and no liquidated damages shall accrue to the state as a result. The State will not incur liability beyond the payment of accrued agreement payment.

Proration

Any provision of a contract resulting from this bid to the contrary notwithstanding, in the event of failure of the State to make payment hereunder as a result of partial unavailability, at the time such payment is due, of such sufficient revenues of the State to make such payment (proration of appropriated funds for the State having been declared by the governor pursuant to Section 41-4-90 of the Code of Alabama 1975), the contractor shall have the option, in addition to the other remedies of the contract, of renegotiating the contract (extending or changing payment terms or amounts) or terminating the contract.

Intent to Award

The State of Alabama – Division of Purchasing will issue an ‘Intent to Award’ before a final award is made. The ‘Intent to Award’ will continue for a period of five (5) calendar days, after which the award will be final provided there are no protests. Upon final award, all rights to protest are forfeited. A detailed explanation of this process may be reviewed in the Alabama Administrative Code – Chapter 355-4-1(14). All protest communications filed via email must be sent to protests@purchasing.alabama.gov

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Alternate Bid Response

Unless stated elsewhere in this Invitation-to-Bid (ITB) the State of Alabama will accept and evaluate alternate bid submittals on any ITB's provided the response meets all bid requirements.

Internet Website Link's

Internet and/or website links will not be accepted in bid responses as a means to supply any requirements stated in this (Invitation-to-Bid) ITB.

Product Delivery, Receiving and Acceptance

In accordance with the Universal Commerce Code (Code of Alabama, Title 7), after delivery, the State of Alabama has the right to inspect all products before accepting. The State will inspect products in a reasonable timeframe. Signature on a delivery document does not constitute acceptance by the State. The State will accept products only after satisfactory inspection.

Sales Tax Exemption

Pursuant to the Code of Alabama, 1975, Title 40-23-4 (A)(11), the State of Alabama is exempt from paying sales tax. An exemption letter will be furnished upon request.

Invoices

Inquiries concerning invoice payments are to be directed to the receiving agency.

Bid Responses and Bid Results

Unevaluated Bid Responses are available on our website at www.purchasing.alabama.gov. The complete bid file will be made available for review in the Division of Purchasing by scheduling an appointment. We do not provide copies of bid files.

Foreign Corporation – Certificate of Authority

Alabama Law provides that a foreign corporation (an out-of-state company/firm) may not transact business in the State of Alabama until it obtains a Certificate of Authority from the Secretary of State. Section 10-2B15.01, Code of Alabama 1975. To obtain forms for a Certificate of Authority, contact the Secretary of State, Corporations Division, (334) 242-5324. The Certificate of Authority does not prevent the vendor from submitting a bid.

Alabama Preferred Vendor

A "Preferred Vendor" shall be a person, firm, or corporation that is granted preference priority by meeting all of the following criteria as established by the Code of Alabama Section 41-16-20.

Priority 1. Produces or manufacturers the product within the State.

Priority 2. Has an assembly plant or distribution facility for the product within the State.

Priority 3. Is organized for business under the applicable laws of the State as a corporation, partnership, or professional association and has maintained at least one retail outlet or service center for the product or service within the State for not less than one year prior to the deadline date for the competitive bid.

Preferred vendor status must be indicated on the pricing page(s) of your bid response in order to be considered for preferred vendor preference. By signing this bid, you affirm that the item(s) indicated meet all three criteria of a preferred vendor.

Bid item(s) meeting the criteria of preferred vendor where pricing is within 1% of the lowest compliant bid may be considered for award by the awarding authority.

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PURPOSE:

THE PURPOSE OF THIS RFB IS TO ESTABLISH A STATEWIDE CONTRACT TO PURCHASE TRUCK MOUNTED HERBICIDE SPRAYERS.

AWARD:

AWARD SHALL BE MADE TO THE LOWEST RESPONSIBLE BIDDER MEETING ALL SPECIFICATIONS.

THIS WILL BE AN ALL OR NONE AWARD.

DELIVERY TIME FRAME:

ALL ITEMS ORDERED MUST BE DELIVERED WITHIN 90 DAYS FROM RECEIPT OF PURCHASE ORDER.

FREIGHT:

ANY FREIGHT CHARGES MUST BE INCLUDED IN THE RFB PRICE.

CONTRACT PERIOD: ESTABLISH A 12 MONTH CONTRACT WITH AN OPTION TO EXTEND FOR A SECOND, THIRD, FOURTH, AND FIFTH 12 MONTH PERIOD WITH THE SAME PRICING, TERMS AND CONDITIONS. THE SECOND, THIRD, FOURTH, OR FIFTH 12 MONTH PERIOD, IF AGREED BY BOTH PARTIES, WOULD BEGIN THE DAY AFTER THE FIRST, SECOND, THIRD, OR FOURTH 12 MONTH PERIOD EXPIRES. ANY SUCCESSIVE EXTENSION MUST HAVE WRITTEN APPROVAL OF BOTH THE STATE AND VENDOR.

PLEASE NOTE: THE EXACT BID COPY REQUIREMENT PER ITEM NUMBER 4 UNDER AUTHORITY OF THIS RFB. PLEASE NOTE: FAILURE TO PROVIDE THE REQUIRED COPY WITH YOUR BID WILL RESULT IN THE REJECTION OF YOUR BID.

PLEASE NOTE: ALL PRICES MUST BE GIVEN PER THE UNIT OF MEASURE IN THE UNIT PRICE SPACE OF THE RFB DOCUMENT. FAILURE TO PROVIDE THE UNIT PRICE AS OUTLINED ABOVE WILL RESULT IN THE REJECTION OF YOUR BID.

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SPECIFICATIONS

1,600 GALLON HERBICIDE SPRAYER

SPECIFICATIONS FOR THE 1,600 GALLON HERBICIDE SPRAYER, NEW LATEST MODEL:

GENERAL DESCRIPTION: THE BASIC UNIT SHALL CONSIST OF A 1,600 GALLON TANK MOUNTED ON A TRUCK CHASSIS (PROVIDED BY THE PURCHASER) WITH A FLAT BED BODY (PROVIDED BY THE VENDOR). THE UNIT SHALL BE DESIGNED TO SPRAY TWO SEPARATE CHEMICALS FOR DIFFERENT APPLICATION TECHNIQUES USING AN INDEPENDENT ELECTRONIC COMPUTERIZED CHEMICAL INJECTION SYSTEM WITH TWO (2) TANKS, MINIMUM SIXTY (60) GALLONS EACH, TO HOLD CHEMICAL CONCENTRATES. THE SPRAYER SYSTEM SHALL BE A CURRENT MODEL UNDER STANDARD PRODUCTION.

PHOTOGRAPHS PROVIDED WITH THESE SPECIFICATIONS INDICATE LOCATION AND PLACEMENT OF KEY COMPONENTS AND FEATURES OF THE COMPLETED SPRAYER BODY ABOUT THE CHASSIS.

ALL BIDDERS MUST BE PREPARED TO PARTICIPATE IN A PERFORMANCE DEMONSTRATION DURING BID EVALUATION TO VERIFY THAT EQUIPMENT OFFERED IS CAPABLE OF MEETING BASIC PERFORMANCE REQUIREMENTS, INCLUDING BUT NOT LIMITED TO THE FOLLOWING CRITERIA:

System must be able to consistently deliver 25 gallons per acre throughout the spray swath noted in the specifications under the "BOOMLESS NUTATING SPRAY HEADS" section at an operational speed of 11 mph

The volume of delivery must be consistent throughout the spray pattern

System nozzles must be immediately fully charged and operational (within 10 feet of truck travel distance) when cut on at the control box

System nozzles must immediately become non-operational (within 10 feet of truck travel distance) when cut off at the control box

Injection system must be fully charged and herbicide delivery to the spray nozzle must be immediate when the spray system is cut on at the control box

EACH BIDDER MUST BE PREPARED TO PROVIDE A MINIMUM OF TWO (2) COMMERCIAL OR GOVERNMENTAL REFERENCES, IF REQUESTED, TO DOCUMENT EXPERIENCE IN THE SUCCESSFUL DESIGN, MANUFACTURE AND SUPPORT OF MULTIPLE HERBICIDE SPRAYERS OF A SIMILAR SIZE, DESIGN AND FUNCTION IN COMPLIANCE WITH THE PROVIDED SPECIFICATIONS. EACH REFERENCE MUST INCLUDE COMPLETE CONTACT INFORMATION. REFERENCES, IF REQUESTED, MUST BE PROVIDED WITHIN FIVE (5) STATE BUSINESS DAYS.

ALL COMPONENTS IN THE WATER AND CHEMICAL SYSTEMS SHALL BE MADE OF NON-CORROSIVE TYPE MATERIALS, COMPATIBLE WITH CHEMICALS CURRENTLY USED BY THE ALABAMA DEPARTMENT OF TRANSPORTATION. ALL PARTS NOT SPECIFICALLY MENTIONED WHICH ARE NECESSARY TO PROVIDE A COMPLETE SPRAYER SYSTEM SHALL BE INCLUDED AND SHALL CONFORM IN STRENGTH AND QUALITY OF MATERIAL AND WORKMANSHIP TO THAT WHICH IS PROVIDED TO THE TRADE IN GENERAL. AN INSPECTION OF THE UNIT WILL BE MADE UPON DELIVERY TO DETERMINE IF IT MEETS ALL MINIMUM SPECIFICATIONS INCLUDING WORKMANSHIP, APPEARANCE, AND PROPER FUNCTION OF ALL COMPONENTS AND SYSTEMS. IT SHALL BE THE RESPONSIBILITY OF THE VENDOR TO MAKE THE UNIT CONFORM TO ALL MINIMUM SPECIFICATIONS PRIOR TO ACCEPTANCE. ANY UNIT DELIVERED AND NOT MEETING SPECIFICATIONS SHALL BE REJECTED.

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TYPE OF APPLICATIONS: THE SPRAYER UNIT SHALL CONSIST OF TWO (2) DIFFERENT APPLICATION SYSTEMS WITH STAINLESS STEEL OR BRASS NOZZLES CAPABLE OF APPLYING CHEMICALS FOR THE FOLLOWING VEGETATION MANAGEMENT PROGRAMS:

1. OVER-SPRAY OR BROADCAST APPLICATIONS OF SELECTIVE TYPE HERBICIDES OR FOLIAR APPLICATIONS TO CONTROL BRUSH MADE ACROSS THE RIGHT-OF-WAY UP TO A WIDTH OF 36 FEET. THE SPRAY UNIT SHALL HAVE THE CAPABILITY TO CORRECT ERRORS IN THE APPLICATION OF CHEMICALS THAT OCCUR WHEN WIND OR OTHER FACTORS INCREASE OR DECREASE THE SWATH WIDTH.
2. SPOT APPLICATIONS OF HERBICIDE TO SHOULDER EDGES OF PAVEMENT, CURBS AND GUTTERS, SIGNS, CULVERT ENDS, BRIDGE ABUTMENTS, AND NARROW OR WIDE MEDIANS.

FRONT BUMPER MOUNTING OF SPRAY HEADS: THE spray heads SHALL BE mounted on the front bumper of the truck. The bumper shall be constructed out of steel tubing, with a low profile, bolted securely to the frame. The bumper must be constructed in a way that no bolts, pins, or screws NEED be removed in order to perform routine maintenance. Mounting bolts may be used to allow for the "boomless spray head" pedestals to be able to slide in and out of the bumper for sprayer adjustment. The pedestal and controlling actuators shall be mounted so as to not block the beam of the headlights. The bumper shall also house and protect a twelve (12) section motorized boom ball valve manifold system. One (1) multi directional valve, controlled from inside the cab, shall be installed as a means to direct flow from left to right spray heads. The manifold system shall be bolted to the bumper in such a way that it will be protected on three (3) sides by a fabricated steel housing to avoid damage to the manifold system if contacted by an obstruction; the floor of said housing shall be perforated in such a manner as to insure the housing does not hold water.

FITTINGS: ALL FITTINGS SHALL BE BRASS OR STAINLESS STEEL. NO GALVANIZED, NYLON OR BLACK FITTINGS SHALL BE ACCEPTABLE. ALL NOZZLES SHALL BE STAINLESS STEEL OR BRASS AND MACHINED TO PROVIDE THE VARIOUS SPRAY PATTERNS AS REQUIRED TO DISTRIBUTE THE SPRAY SOLUTIONS IN THE MOST EFFICIENT AND SAFE MANNER POSSIBLE.

WATER TANK: THE TANK SHALL BE AN ELLIPTICAL SHAPED 1,600 GALLON (BLACK IN COLOR) CAPACITY UNIT. THE TANK SHALL HAVE REMOVABLE ANTISURGE, "BUTTERFLY BAFFLE" SYSTEM THAT REDUCES THE TANK VOLUME BY NO MORE THAN 1.5% (BOLT IN BAFFLES OR TANK INDENTATIONS SHALL NOT BE ACCEPTABLE). THE TANK AND BAFFLE MATERIAL SHALL BE UV STABILIZED POLYETHYLENE. THE TANK SHALL BE SECURED TO A CHASSIS MOUNTED FLATBED WITH FOUR (4) HEAVY DUTY, GALVANIZED TUBULAR STEEL BANDS. THE BASE PLATE FOR EACH BAND SHALL BE CONSTRUCTED WITH BOLTS THAT PASS THRU THE FLATBED DECK AND BED CROSS MEMBER. THE BANDS SHALL PROVIDE ADEQUATE SUPPORT FOR CONTINUOUS OFF-ROAD OPERATION. THE TANK LID SHALL BE A MINIMUM 16-INCH DIAMETER, POSITIVE LOCKING TYPE WITH AN AIR VENT TO PREVENT DAMAGE FROM EXCESSIVE PRESSURES OR VACUUM. THERE SHALL BE A 1 ½-INCH BALL VALVE INSTALLED AT EACH END OF THE TANK AS CLOSE AS POSSIBLE TO THE TANK BOTTOM. THE VALVES SHALL BE MOUNTED AS CLOSE TO THE BULKHEAD FITTINGS AS POSSIBLE. IT SHALL BE POSSIBLE TO OPEN AND CLOSE BOTH VALVES FROM THE RIGHT (PASSENGER) SIDE OF THE TRUCK WHILE STANDING ON THE GROUND. BOTH TANK VALVES SHALL BE PLUMBED TO A "T" FITTING MOUNTED BELOW THE BOTTOM CENTER OF THE TANK, WHICH IN TURN SHALL BE PLUMBED TO THE WATER PUMP INLET. THE HOSE BETWEEN THE TANK AND THE WATER PUMP SHALL BE 1 ½"-INCH NON-COLLAPSIBLE SUCTION TYPE.

TRUCK BED AND TANK SUPPORT: A L.C.G. (LOW CENTER OF GRAVITY) SELF-CONTAINED FLAT BED SHALL BE CONSTRUCTED OF 3-INCH AND 5-INCH STRUCTURAL

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CHANNEL WITH 11-GAUGE STEEL PLATE. THE FLAT BED SHALL BE A MINIMUM OF 102 IN. WIDE. BY 17 FT. 10 IN. IN LENGTH. THE TRUCK CHASSIS SHALL BE AT LEAST 130-INCHES CAB TO AXLE LENGTH. THE BED SHALL HAVE A HEADACHE RACK TO CONTAIN TWO (2) AMBER STROBE LIGHTS (MINIMUM 1000 CANDELAS WITH 140 FLASHES PER MINUTE) PLACED AS TO BE CLEARLY VISIBLE TO TRAFFIC BEHIND THE TRUCK, AND TWO (2) FLAGS MOUNTED ON EACH SIDE. THE BED SHALL HAVE ALL LED STOP AND RUNNING LIGHTS AND REFLECTORS INSTALLED PER FEDERAL HIGHWAY SPECIFICATIONS. THE STOP LIGHT SHALL BE MOUNTED SO AS TO BE VISIBLE WHEN ATTENUATOR IS IN THE UP-RIGHT POSITION. ONE COAT OF PRIMER AND TWO (2) COATS OF PAINT (BLACK IN COLOR, WITH NON-SKID FINISH) SHALL BE USED. ANTI-SAIL MUD FLAPS (MINIMUM OF ½-INCH THICK RUBBER) SHALL BE MOUNTED BEHIND THE REAR WHEELS. THE CHEMICAL INJECTION PUMPS, A MINIMUM OF 60-GALLON CHEMICAL TANKS, AND TRAFFIC ARROW BOARD SHALL BE ARRANGED SO THE OPERATOR CAN STAND ON THE BED AND EASILY REACH THE TOP OF THE CHEMICAL TANKS AND ALSO A 24" WIDE 2 STEP LADDERS WITH A TOP RUNG PLATFORM TO GIVE ACCESS TO THE CARRIER TANK TO ADD DRIFT CONTROL. THERE SHALL BE A STEP ON THE RIGHT REAR OF THE BED AND A HANDLE TO HELP THE OPERATOR UP AND DOWN OF THE PLATFORM. A STORAGE BOX, 18 INCHES IN WIDTH, WITH 18 INCHES VERTICAL DROP, AND 18 INCHES IN LENGTH SHALL BE MOUNTED, AS SPACE WILL ALLOW, UNDER THE BED, ON THE DRIVER SIDE UNDER THE HERBICIDE TANK.

ARROW BOARD: SHALL CONTAIN A MINIMUM OF 25 LED LAMPS IN A TRI-FUNCTIONAL BOARD SHALL BE INSTALLED SO AS TO INSURE CLEAR VIEWING. THE ARROW BOARD SHALL BE MOUNTED SO THAT THE TOP IS LOCATED NO MORE THAN NINE (9) FEET ABOVE THE GROUND LEVEL.

QUICK FILL SYSTEM: THERE SHALL BE A 2-INCH BY 4 INCH AIR GAP LOCATED ON TOP OF THE WATER TANK LID. A 2-INCH SHUT OFF VALVE, "Y" STRAINER AND MALE QUICK DISCONNECT WITH DUST CAP SHALL BE MOUNTED ON UNDER THE BED ON THE PASSENGER SIDE. A 2" FEMALE QUICK DISCONNECT SHALL BE ON ONE END OF THE 2 -INCH HOSE (MINIMUM 25 FEET IN LENGTH) AND BE COMPATABLE TO THE FIRE HYDRANT CONNECTION ON THE OTHER END.

HYDRAULIC DRIVEN SPRAY PUMP SYSTEMS: THE MAIN SYSTEM SHALL HAVE A HYDRAULIC DRIVEN CENTRIFUGAL PUMP (MODEL 9304C-HM4 HYPRO OR EQUIVALENT) POWERED BY A PRESSURE AND FLOW COMPENSATED LOAD SENSING HYDRAULIC SYSTEM. THE SYSTEM WILL BE SIZED TO DRIVE THE WATER PUMP AND OPTIONAL ARTICULATED SPRAY BOOM SYSTEM IN EXCESS OF THE REQUIRED FLOWS AND PRESSURES WHEN THE CHASSIS ENGINE IS OPERATED AT 1000 RPM. THE HYDRAULIC PUMP MUST BE A VARIABLE DISPLACEMENT PISTON TYPE, DRIVEN "LIVE" FROM CHASSIS TRANSMISSION POWER TAKE OFF. **WARNING: WHEREAS ALDOT PROVIDES THE REQUISITE CHASSIS TO THE SPRAYER CONTRACTOR, PURCHASED FROM THE EXISTING ALABAMA STATE TRUCK CHASSIS CONTRACT WITH AN ALLISON 3500RDS 5-SPEED TRANSMISSION WITH A ONE-TO-ONE OUTPUT RATIO. THE SUCCESSFUL SYSTEM OFFERED IN THIS BID SOLICITATION MUST BE FULLY COMPATIBLE WITH SAID TRANSMISSION.** THE ON/OFF CONTROL SWITCHES FOR THE WATER PUMP WILL BE LOCATED IN THE CAB CONTROL CENTER. THE SPEED CONTROL FOR EACH PUMP WILL BE A MANUALLY ADJUSTABLE FLOW CONTROL VALVE INSTALLED BETWEEN THE HYDRAULIC PUMP AND THE WATER PUMP DRIVE MOTOR. A 2.5 INCH LIQUID FILLED WATER PUMP PRESSURE GAUGE MUST BE INSTALLED AT A LOCATION THAT CAN BE EASILY VIEWED WHEN ADJUSTING THE WATER PUMP SPEED CONTROL. THE HYDRAULIC RESERVOIR WILL HAVE A MINIMUM CAPACITY OF 30 GALLONS AND INCLUDE A SUCTION STRAINER, RETURN FILTER, SIGHT GAUGE, FILLER BREATHER, AND CUTOFF BALL VALVES IN THE RETURN AND SUCTION LINES. MOUNTING LOCATION FOR THE RESERVOIR SHALL BE ON TOP OF THE CHASSIS BED IN AN AREA THAT ALLOWS EASY ACCESS. ONE PUMP SHALL BE EQUIPPED WITH A STAINLESS-STEEL MIXING MANIFOLD TO ALLOW CHEMICALS TO BE THOROUGHLY MIXED WHEN THE ARE INJECTED IN THE MAIN FLOW PRIOR TO DISCHARGE. THE MIXING MANIFOLD SHALL

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HAVE TWO (2) 0.5 INCH CHECK VALVES TO PREVENT BACK FLOW FROM THE MAIN TANK TO THE CHEMICAL TANKS. THE PUMPING SYSTEM SHALL BE DROPWELL MOUNTED UNDER THE TRUCK BED.

FRESH WATER SUPPLY: A FRESH WATER SUPPLY SOURCE (9-GALLON POLYEHTYLENE TANK) WITH A ¾-INCH CUT OFF VALVE SHALL BE TRUCK MOUNTED WITH THE CUT OFF VALVE UNDER THE TRUCK BED. THIS SUPPLY IS FOR WASHING HANDS AND TO RINSE EQUIPMENT WHEN LOADING CHEMICAL.

PLUMBING AND FILTERS: ALL HOSES (EXCEPT WHERE STATED) SHALL BE OF 150 PSI OPERATING PRESSURE. ALL PLUMBING AND FILTERS SHALL BE OF BRASS OR EQUIVALENT AND BE SIZED AND PLACED TO COMPLETE THE OPERATION OF THE UNIT. PLACEMENT OF PLUMBING AND FILTERS SHALL ALLOW EASY ACCESS FOR CLEANING AND REPAIRS.

COMPUTERIZED CHEMICAL INJECTION SYSTEM: THE COMPUTERIZED CONTROL SYSTEM SHALL BE A MID-TECH TASC 6300 OR EQUAL.

IT SHALL BE MOUNTED ON A SWIVEL DEVICE TO ALLOW OPERATION FROM EITHER THE DRIVER OR PASSENGER SIDE OF THE VEHICLE. IT SHALL AUTOMATICALLY CONTROL CHEMICAL OUTPUT RATES (BOOMLESS NUTATING HEADS, FLEXIBLE BOOM EXTENSION, OR HANDGUN) WITHIN A RANGE OF PLUS OR MINUS 2% OF THE PREPROGRAMMED RATES. IT SHALL RECEIVE SPEED AND DISTANCE INPUT FROM A GPS UNIT MOUNTED ON THE BEACON LIGHT BAR THE UNIT SHALL BE LOCATED A MINIMUM OF 18 INCHES FROM THE BEACON LIGHT.

THE SYSTEM SHALL DISPLAY THE FOLLOWING DATA DURING NORMAL OPERATION:
 OPERATOR PROGRAMMED APPLICATION RATES FOR EACH INJECTION PUMP (IN OUNCES PER ACRE) WITH THE CAPABILITY OF INDIVIDUALLY INCREASING OR DECREASING THE RATES WHILE ON THE GO.
 VEHICLE ACTUAL AND SIMULATED TEST SPEED – UP TO 30 MPH
 DISTANCE TRAVELED IN FEET AND MILES
 TOTAL AREA SPRAYED IN ACRES AND THE WIDTH OF EACH SPRAY SECTION

IN THE CASE OF MALFUNCTION, THE COMPUTER SHALL DISPLAY THE FOLLOWING DEFAULT DIAGNOSTIC INFORMATION:
 THE NUMBER OF THE MALFUNCTIONING INJECTION PUMP
 THE CODE FOR COMPLETE PUMP FAILURE
 THE CODE FOR INJECTION PUMP RUNNING OUT OF PROGRAMMED RANGE

INJECTION PUMPS: THE SPRAYING UNIT SHALL BE EQUIPPED WITH TWO (2) PERISTALTIC PUMPS THESE PUMPS SHALL BE AS FOLLOWS:
 LEGACY OR EQUIVALENT MODEL WITH A CAPACITY OF 0.50-350 OZ. PER MINUTE
 FIVE (5) ROLLER DESIGN AND QUICK RELEASE COVER
 TUBE SIZES OF 3/16-INCH TO ½-INCH

CHEMICAL TANKS: THE UNIT SHALL BE EQUIPPED WITH TWO (2) POLYETHYLENE CONE-TYPE CHEMICAL HOLDING TANKS, MINIMUM SIXTY (60) GALLONS EACH. THE TANKS SHALL BE MOUNTED IN A STAND BOLTED ON THE TOP OF THE FLAT BED BEHIND THE MAIN WATER TANK. EACH TANK SHALL BE PLUMBED FOR EASE OF DRAINING UNUSED CHEMICAL AND SHALL HAVE LOW CHEMICAL INDICATORS TO ALERT THE DRIVER VIA A LIGHT ON THE CONTROL PANEL IN THE CAB. EACH TANK SHALL BE EQUIPPED WITH AN ELECTRICAL MECHANICAL AGITATOR WITH A STAINLESS-STEEL SHAFT AND TWO PROPELLERS. THE AGITATOR SHALL BE CONTROLLED FROM THE CONTROL PANEL AND SHOULD HAVE HIGH/LOW SPEED CAPABILITIES.

SAFETY ITEMS: ALL BELTS SHALL HAVE SAFETY COVERS. THE PUMPS SHALL HAVE A MINIMUM OF FOUR (4) ANTI-VIBRATION MOUNTS PER UNIT.

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CONTROL CONSOLE: All electrical functions controllable by a switch (with the exception of chemical injection or GPS mapping) shall be housed in a single metal control console. All electrical connections shall be wired into the control console through a single multi-pin connector. THE CONTROL CONSOLE SHALL BE MOUNTED ON A SWIVEL MOUNT BETWEEN THE DRIVER AND PASSENGER OF THE TRUCK. THE CONSOLE SHALL BE NO GREATER IN SIZE THAT 10-INCHES BY 17-INCHES. IT SHALL CONTAIN ALL SWITCHES FOR DUAL SPRAY HEAD TILT AND RETRACTION, BEACON LIGHTS, WATER PUMP ON/OFF, BOOM VALVES, CHEMICAL TANK INDICATORS, CHEMICAL TANK AGITATORS, AGITATION PUMP ON/OFF, AND ROTORY SWITCH FOR AUTO, B, C, AND HANDGUN. NO HARD WIRING TO THE CONSOLE SHALL BE ACCEPTED. ALL WIRING SHALL BE ADEQUATE TO SAFELY CARRY THE MAXIMUM AMPERAGE REQUIRED BY THE SYSTEM UNITS. ALL WIRING SHALL BE OF A STANDARD CODE AND COLOR FOR EACH MODEL UNIT. ALL WIRING SCHEMATICS SHALL BE IDENTICAL FROM VEHICLE TO VEHICLE. ALL FUSES SHALL BE CENTRALLY LOCATED IN THE CAB AND SHALL BE IDENTIFIED AS TO WHAT EACH FUSE CONTROLS.

CALIBRATION: THE COMPUTERIZED CHEMICAL INJECTION SYSTEM SHALL ALLOW SAFE AND EASY CALIBRATION BY THE OPERATOR. THE CHEMICAL INJECTION PUMPS SHALL HAVE A CALIBRATION KIT FOR EACH ONE TO ALLOW FOR THESE TASKS. THE OPERATOR SHALL BE ABLE TO CALIBRATE EACH INJECTION PUMP FOR THE INTENDED RATE PER ACRE PRIOR TO SPRAYING ANY WATER OR USING ANY CHEMICAL.

CLOSED CHEMICAL TANK LOADING SYSTEM: THE CLOSED LOADING SYSTEM SHALL CONSIST OF A PUMP AND CONTROLS INSTALLED AS AN INTEGRAL PART OF THE SPRAYER. THE CONTROLS WILL BE LOCATED FOR CONVENIENT OPERATION WHILE STANDING ON THE GROUND. ALL CHEMICAL TANKS WILL BE PLUMBED FOR BOTTOM FILLING. THE CHEMICAL TANKS SHALL BE PLUMBED TO THE "CLOSED LOADING SYSTEM" WITH 3/4-INCH HOSE. THE "CLOSED LOADING STATION" WILL INCLUDE INDIVIDUAL 1-INCH POLY BALL VALVES FOR EACH CHEMICAL TANK. THE BALL VALVES WILL DIRECT CHEMICAL OR WATER TO THE DESIRED CHEMICAL TANK, TRANSFER PRODUCTS BETWEEN CHEMICAL TANKS, AND OFF-LOAD CHEMICAL FROM CHEMICAL TANKS. THE VALVES WILL BE CLEARLY LABELED FOR FUNCTION AND ACTION. A FOURTH POLY BALL VALVE, WITH HOSE, SHALL BE INCLUDED TO TRANSFER SURFACTANT INTO THE MAIN WATER SUPPLY. THE LOADING PUMP SHALL BE A DUAL DIAPHRAM, SELF-PRIMING TYPE WITH THERMAL-OVERLOAD PROTECTION; EACH OF THE DIAPHRAMS SHALL HAVE TWO INLET AND OUTLET CHECK VALVES. THE PUMP SHALL BE A 13 GALLON PER MINUTE RATED PUMP. THE SYSTEM WILL INCLUDE A 3/4-INCH BY 8FT. LONG SUCTION/DISCHARGE HOSE WITH A 3 FT. LONG, PLASTIC REMOTE TANK EXTRACTION PROBE. THE SUCTION/DISCHARGE (PROBE) HOSE WILL HAVE A 1-INCH DRIPLESS MALE QUICK DISCONNECT MATCHING THE INLET/OUTLET AT THE CLOSED LOADING STATION. THE PROBE HOSE SHALL HAVE A 3/4-INCH QUICK DISCONNECT ON THE END CONNECTED TO A "MICRO-MATIC" CHEMICAL UNLOADING VALVE TO EXTRACT CHEMICAL FROM PREMIXED CHEMICAL TANKS. THE MAIN WATER TANK SHALL HAVE A "MICRO-MATIC" VALVE INSTALLED TO FLUSH THE "CLOSED LOADING SYSTEM" THRU THE PROBE HOSE AND ADD FRESH WATER TO THE CHEMICAL TANKS. AN ON-OFF BALL VALVE SHALL BE INSTALLED IN THE MANIFOLD SYSTEM AND A 3/4" FITTING IN THE TOP OF THE CARRIER TANK TO LOAD SURFACTANT FROM THE GROUND.

COATING: ALL METAL SURFACES INCLUDING, BUT NOT LIMITED TO, THE BED, BUMPER, BUMPER MOUNTED SPRAY PEDESTALS AND SHIELDS, SUPPORTS AND UPRIGHTS SHALL BE COATED BY WITH A CHEMICAL RESISTANT, TWO-COMPONENT, HIGH PROFORMANCE ELASTOMETRIC POLYURETHANE RESIN LINING SYSTEM (TOOL BOXES ARE EXCLUDED).

INSTRUCTION MANUALS: THE SUPPLIER SHALL PROVIDE TWO (2) CD'S WITH OPERATING INSTRUCTIONS AND PARTS LIST. PLUS AN "OPERATOR'S MANUAL" WHICH INCLUDES INSTRUCTIONS FOR OPERATION START-UP, CHEMICAL RATES,

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WETTABLE POWDERS & GRANULAR PRODUCTS, CHEMICAL LEVEL INDICATOR, DRIFT CONTROL SYSTEM, SURFACTANT KIT, OPERATION SHUTDOWN, MAINTENANCE SCHEDULES, WATER PUMP PRESSURE ADJUSTMENT, (HYDRAULIC), SPRAY SYSTEM WINTERIZATION, SPRAYHEAD NOZZLE PRESSURE ADJUSTMENT, AND MID TECH (OR EQUAL) USER GUIDE INSTRUCTIONS AND ERROR CODES, CHARTS FOR PUMP TUBE SELECTION, AND A SPRAY PATTERN CHART FOR A 25 GAL/A DELIVERY RATE AT 11 MPH.

INSTALLATION: THE INSTALLATION SHALL BE COMPLETED AT THE SUPPLIER'S LOCATION AND SHALL INCLUDE THE ATTACHMENT OF THE TRINITY INDUSTRIES INC. MODEL MPS-350 III OR APPROVED EQUAL CRASH ATTENUATOR (TO BE SUPPLIED BY PURCHASER) TO THE VEHICLE (TRUCK CHASSIS TO BE PROVIDED BY THE PURCHASER). IT SHALL BE THE RESPONSIBILITY OF THE SUPPLIER TO ENSURE THAT ALL UNIT ITEMS ARE PROPERLY LOCATED AND INSTALLED SO THAT THE GROSS VEHICLE WEIGHT (FULLY LOADED) DOES NOT EXCEED THE TRUCK MANUFACTURER'S GVWR OR GAWR FOR THE VEHICLE. THE VENDOR MUST ADVISE THE STATE, IN WRITING, OF THE REQUIRED MINIMUM SINGLE REAR AXLE CHASSIS SPECIFICATIONS FOR GVWR AND GAWR.

WARRANTY: MINIMUM 12 MONTHS ON TOTAL UNIT. WARRANTY REPAIRS TO BE MADE AT USER LOCATION OR VENDOR WILL ARRANGE TO PICKUP AND RETURN UNIT.

PARTS AND SERVICES: THE VENDOR MUST SUPPLY ALL PARTS AND SERVICES IN THE STATE OF ALABAMA.

SMALL PARTS KIT: EACH SPRAYER UNIT SHALL INCLUDE THE FOLLOWING ITEMS STORED IN THE TOOL BOX:

- LARGE FILTER SCREEN AND O RING (1 EA.)
- SMALL FILTER SCREEN AND O RING (1 EA.)
- BOOM VALVE REPAIR KIT (2 EA.)
- LARGE TUBE LUBE FOR INJECTION HOSE (1 EA.)
- TIP PRESSURE SETTING TOOL (1 EA.)
- CALIBRATION JAR (1 EA.)
- EXTRA SET OF INJECTION HOSES (3/16", 1/4", 3/8", 1/2") (1 EA.)
- QUICK FILL INSTALLED AND SECURED WITH 2" x 25' FIRE HOSE
- STINGER HOSE, PROBE HOSE, CHEMICAL PROBE & MICRO-MATIC VALVE
- SPRAY GUN, FILTER SOCK & FLAGS

DELIVERY AND TRAINING: THE SUPPLIER SHALL DELIVER THE COMPLETED TRUCK UNIT TO THE LOCATION SPECIFIED BY THE PURCHASER. THE SUPPLIER SHALL REVIEW THE ALDOT SUPPLIED CHECKLIST WITH THE RECEIVING LOCATION TO ENSURE THAT ALL SMALL PARTS ARE DELIVERED. ANY MISSING PARTS SHALL BE DELIVERED TO THE RECEIVING LOCATION WITH 72 HOURS. THE SUPPLIER SHALL PROVIDE 8 HOURS OF OPERATOR TRAINING SESSIONS PER TRUCK UNIT. THE TRAINING SHALL COVER THE OPERATION OF THE SYSTEM INCLUDING:

- UTILIZATION OF ALL POSSIBLE SPRAYER APPLICATION TECHNIQUES.
- INCORPORATION OF VARIOUS HERBICIDE PROGRAMS THROUGH THE INJECTION SYSTEM.**
- SYSTEM MAINTENANCE AND SUGGESTED MAINTENANCE SCHEDULE**

OPTIONS:

(1.) **BOOMLESS SPRAY HEADS (MUST SELECT ONE)**

OPTION A)

BOOMLESS NUTATING SPRAY HEADS: THE UNIT SHALL BE EQUIPPED WITH TWO (2) BOOMLESS "NUTATING" SPRAY HEADS MOUNTED (ON THE FRONT BUMPER OF THE TRUCK), WITH EIGHT (8) SECTIONS, MOTORIZED BOOM BALL VALVES AND REGULATORS – ALL SECTIONS SHALL USE SOLID STREAM LOW-

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DRIFT NOZZLES. THE SPRAY HEADS SHALL HAVE EIGHT (8) ADJUSTABLE NOZZLE ASSEMBLIES THAT PRODUCE A MINIMUM 36-FOOT-WIDE SWATH (HORIZONTAL PLANE), NO STREAK SPRAY PATTERN, USING ALL STAINLESS STEEL OR BRASS, SOLID STREAM NOZZLES, THAT PRODUCE INDIVIDUAL SPRAY SWATHS WITH WIDTHS OF 2FT., 2FT., 4FT., 4FT., 4FT., 6FT., 6FT., AND 8FT. **(NOTE: IF AN EXTENSION SPRAY BOOM IS INSTALLED THE SPRAY PATTERN WILL BE 4 FT., 8 FT., 10 FT., 6 FT., AND 8FT. FOR A TOTAL OF 36 FT.)** THE SPRAY HEAD SHALL BE UP/DOWN TILLABLE (FROM THE CAB) FOR EMBANKMENT SPRAYING. THE PRESSURE GAUGE FOR THE ENTIRE SYSTEM SHALL BE A MINIMUM OF 2.5 INCHES IN DIAMETER AND SHALL BE MOUNTED IN PLAIN VIEW OF THE DRIVER TO INSURE AN EASY MONITORING OF THE SYSTEM. MOTORIZED RETRACTING ACTUATORS FOR IN/OUT CONTROL OF SPRAY HEADS SHALL BE MOUNTED ON THE PEDESTALS. A DOUBLE FAN NOZZLE SHALL BE MOUNTED ON THE PEDESTAL FOR CURB, GUTTER AND GUARD RAIL SPRAYING.

OPTION B)

BOOMLESS RADIAL MOUNT SPRAY HEADS: THE UNIT SHALL BE EQUIPPED WITH TWO (2) BOOMLESS SPRAY HEADS MOUNTED ON THE FRONT BUMPER OF THE TRUCK. Each spray head shall consist of two fixed position radial nozzle mounts designed to independently perform roadside turf and/or brush applications. Each radial mount shall run independently of the other to perform the two separate functions. The turf mount shall have a minimum of five (5) individual boom sections with no less than fourteen (14) nozzles located in a fixed position, along a radial arc, supplying a spray swath of 30' at 11 mph to ensure a streak free swath that does not alter due to wear. Swath widths of 6', 6', 6', 6', and 6' will be achieved with a combination of flat fan and straight stream nozzles. Flat fan nozzles must be attached to brass or stainless steel (poly or plastic will not be accepted) air injectors to provide large droplets and reduce drift. Flat Fan nozzles shall populate only the first two banks; the last three banks shall be populated with solid stream nozzles. The brush mount shall have a minimum of four (4) individual boom sections with no less than fifteen (15) nozzles located in a fixed position, along the radial mount, supplying a vertical spray swath of eighteen feet (18') at 11 mph to ensure a streak free swath that does not alter due to wear. Vertical swath widths start a ten (10') feet from the outside of the front tire. Swath widths of 54", 54", 54", and 54" will be achieved using straight stream nozzles. both mounts shall be up/down tilt able and in/out retractable (from the cab) for embankment spraying. A liquid pressure gauge shall be mounted in view of the operator to insure easy monitoring of the system. The spray head pedestals shall be mounted on an adjustable brake socket to avoid damage to the spray head if contacted by an obstruction. A Teejet type 4202 or equivalent will be installed on each pedestal for curb, gutter, and guard rail spraying.

- (2.) **HANDGUN AND HOSE REEL:** THE UNIT SHALL BE EQUIPPED WITH ONE MANUAL HOSE REEL WITH A MINIMUM OF 100 FEET OF ½-INCH 600 PSI SPRAY HOSE AND WITH A #43 TEEJET GUN OR EQUIVALENT.
- (3.) **LOW FLOW CHEMICAL MONITOR:** A LOW FLOW CHEMICAL MONITOR SHALL BE INSTALLED IN EACH CHEMICAL TANK TO WARN OPERATOR OF A MALFUNCTION IN CHEMICAL DELIVERY.
- (4.) **ADDITIONAL STORAGE BOX(S):** STORAGE BOX(S), 18 INCHES IN WIDTH, WITH 18 INCHES VERTICAL DROP, AND 18 INCHES IN LENGTH SHALL BE MOUNTED, AS SPACE WILL ALLOW, UNDER THE BED.

(6.) EXTENDED SPRAY BOOM: THE EXTENDED SPRAY BOOM MUST BE CAPABLE OF PRODUCING A 50-FT. MINIMUM SPRAY swath when used in conjunction with

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the bumper mounted BOOMLESS SPRAY HEAD.THE SPRAY BOOM MUST BE 19-FT. LONG MINIMUM WHEN FULLY EXTENDED. THE PIVOT POINTS AND ASSOCIATED LINKAGE ON THE BOOM SECTIONS MUST INCLUDE ROTARY PINS AND BRONZE BUSHINGS. THE MAIN BOOM WILL BE 4-IN. MINIMUM, SQUARE STEEL TUBING ATTACHED TO A HEAVY-DUTY, FREESTANDING, TURRET AND PEDESTAL. UNLESS OTHERWISE STATED, THE PEDESTAL MUST BE MOUNTED ON THE RIGHT SIDE, OF THE FLAT BED DECK DIRECTLY BEHIND THE CAB SHIELD WITH THE SAME BASE AND MOUNTING BRACKETS ON THE LEFT SIDE. The pedestal and entire boom assembly must be transferable to the left side of the flat bed deck directly behind the cab. The boom shall be able to perform the exact same functions, whether mounted on the right or left side of the flat bed. D-rings shall be welded to the boom to aid in the transfer of the boom from right to left side. All hydraulic lines and sprayer hoses shall be mounted in a way that they do not have to be disconnected to perform the transfer of boom from the right to left side of the truck. THE BOOM TURRET WILL ROTATE IN TWO SEALED, HEAVY DUTY, TAPERED, ROLLER BEARINGS AND INCLUDE AN INTEGRAL FRICTION CLUTCH TYPE BREAKAWAY. THE OVERRIDE RESISTANCE FOR THE CLUTCH MUST BE ADJUSTABLE AND ALL COMPONENTS EASILY REPLACEABLE. THE TRANSPORT POSITION FOR THE BOOM MUST BE BELOW THE TOP OF THE WATER TANK, PARREL WITH THE SIDE OF THE FLATBED, AND INSIDE THE WIDTH OF THE BED. A DECK MOUNTED STANCHION WITH PADDED CRADLE WILL BE PROVIDED, on each side of the bed TO CARRY THE BOOM FOR TRANSPORTATION AND WHEN SPRAYING WITH THE BUMPER MOUNTED SPRAY HEAD ONLY. THE HORIZONTAL SWING FOR THE MAIN BOOM MUST BE A MINIMUM OF 100 DEGREES FROM STORAGE POSITION TO OPERATE POSITION AND 75 DEGREES DOWN FROM THE FULLY RAISED POSITION. THE STICK BOOM SECTION (OUTSIDE BOOM) MUST BE CONSTRUCTED FROM 3-IN. SQUARE STEEL TUBING. LIFTING, LOWERING OR ROTATING EACH BOOM SECTION MUST BE ACCOMPLISHED WITH DIRECT-MOUNT, DOUBLE ACTING, HYDRAULIC CYLINDERS. THE STICK BOOM WILL ROTATE HYDRAULICALLY A MINIMUM OF 180 DEGREES FROM THE STOWAGE POSITION (PARALLEL TO THE UNDERSIDE OF THE MAIN BOOM) TO A FULL EXTENSION. A BOOMLESS SPRAY HEAD WILL BE SECURELY ATTACHED TO THE OUTSIDE END OF THE STICK BOOM. The spray head will have three (3) individual boom sections and must have a minimum of sixteen (16) fixed position, straight stream nozzles, located on a radial arc, designed to ensure proper uniform coverage that does not alter due to wear. The boomless spray head must cover a minimum twenty-six-foot (26') swath and fifty (50') swath minimum when opertaed in conjunction with the bumper mounted boomless spray head. The 3 section boomless spray head will be supplied with a one (1") water line, plumbed into a brass or stainless-steel manifold. A 3-section electric valve manifold with pressure regulators shall be mounted inside the head and will be used to control the rate and direction of supply to the individual boom sections. THE SPRAY HEAD MUST HAVE AN ELECTRIC ACTUATOR THAT PROVIDES A MINIMUM OF 25-DEGREES OF UP/DOWN TILT. HEAVY-DUTY SIDE PANELS WILL PROTECT THE SPRAY HEAD COMPONENTS FROM CONTACT WITH ROAD SIDE OBSTRUCTIONS. NOTE: ARTICULATED SPRAY BOOMS UTILIZING SPROCKETS, CHAIN, CABLE, SHEAVES OR GEARS WILL NOT BE ACCEPTABLE. THE BOOM HYDRAULIC SYSTEM WILL BE SUPPLIED VIA THE UNITS EXISTING CLOSED CENTER PTO HYDRAULIC PUMP. THE OPERATING VALVES FOR THE SPRAY BOOM WILL BE ELECTRO-HYDRAULIC CARTIDGE STYLE IN A SINGLE MANIFOLD. THE MANIFOLD MUST INCLUDE COUNTER BALANCE VALVES FOR BOOM AND STICK LIFT CYLINDERS, AN ADJUSTABLE MAIN RELIEF VALVE, AND ADJUSTABLE HIGH/LOW SPEED (FLOW) CONTROL. The valves will be remotely operated with a single wireless remote UNIT from inside or outside of the cab. The remote must perform the following functions: Power On/Off, Water On/Off, Rotate In/Out, Boom Up/Down, Boom Stick In/Out, Head Up/Down, & Status Indicator.

(7.) RETROFIT EXISTING TRUCKS: TO RETROFIT EXISTING TRUCKS TO INCLUDE OPTION 4 BOOM AND REINFORCEMENT OF BED ACCORDING TO BOOM MANUFACTURER SPECIFICATIONS. CONTRACT VENDOR HAS THE RIGHT TO DENY INSTALLATION DUE TO SAFETY ISSUES.

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(8.) SPOT SPRAY TANK & HAND GUN: SHALL BE A 30 GALLON CONE TYPE TANK IN A RACK BOLTED BETWEEN THE MINIMUM 60-GALLON CHEMICAL TANKS. THIS UNIT SHALL HAVE A 1.8 GALLON PER MINUTE 12 VOLT ELECTRIC DIAPHRAM PUMP, AA23L TEEJET HAND GUN AND 25 FT. OF 3/8" REINFORCED CLEAR SPRAY HOSE. THIS UNIT IS DESIGNED TO BE USED WITH CHEMICALS INDEPENDENT OF THE MAIN HERBICIDE SPRAYER. THE TANK SHALL BE FILLED VIA THE CLOSED CHEMICAL LOADING SYSTEM.

SKID MOUNTED RIGHT-OF-WAY SPRAYER

It is the intent of this specification to describe a complete and operable skid mounted spraying system for the controlled application of herbicides. The spray system will be designed and constructed for convenient operation and simple installation on a flatbed body. Only new (unused) current standard production models built for the U.S. market will be considered acceptable. For equipment being offered to qualify as a standard production model, the manufacturer (vendor) must provide a list of three users that have operated their equipment for a minimum of three full spray seasons. Printed literature and specifications describing equipment as offered must be included with proposal. Any recent changes and features offered as standard or required for the intended use of the specified equipment will be supplied. All accessories required by these specifications shall be identical in quality and design to those normally supplied and installed for sale through regular commercial channels.

Make and Model: RSI-1000G-TM OR EQUAL

General Description: Shall be a spray system that includes but is not limited to a water tank, centrifugal spray pump, skid and saddle, DRT spray head, handgun and pumping system. All plumbing and related components in the water and chemical systems must be non-corrosive type, compatible with chemicals currently used in the vegetation management programs.

1a. Water Tank: Shall be elliptical shape with 1000-gallon capacity (no exception). The tank shall have a removable, anti-surge "Butterfly Baffle" system (indentation in tank OR BUILT IN BAFFLES not acceptable) that reduces tank volume by no more than 1.5%. The tank and baffle material must be UV stabilized polyethylene (TANK SHOULD BE BLACK IN COLOR). The tank will be saddle mounted and secured with a minimum of three (3) heavy duty, flat 11-gauge steel bands. A minimum of two bands must have "D" ring tie downs on both sides of the tank. The hose between the tank and sprayer pump shall be a 1 ½-in. non-collapsible suction hose. The suction line must include a glass filled, 2-in. poly ball valve installed below the bottom of the tank. The ball valve will serve as the tank shutoff and drain valve. The tank lid shall be 16-in. diameter minimum, positive locking type with an air vent to prevent damage from pressure or vacuum.

1b. Fill System: Shall be a hard plumbed 2 ½" mill fire hose mounted (WITH AIR GAP) into the top of the tank with a 2 ½" brass back flow valve and 2 ½" gate valve. A 25 ft. 2 ½" mill fire hose shall be supplied with unit with NPSH female fire hydrant swivel.

1c. Skid and Saddle Assembly: Shall be designed and constructed as an integral unit with 11-gauge formed steel. The design must maximize weight reduction AND withstand the stress of frequent lifts on and off carrier vehicles. The saddle shall consist of three 12-in. wide flat steel sections formed to fit the contour of the water tank. The side jack supports between the saddle sections and skids shall be 1 ½-in. square steel tubing. The skid longitudinals shall be 137-in. long, hot rolled, sheet steel with break-formed flanges top and bottom (top flange to fit contour of the saddle sections). There shall be a minimum of five, 2-in. by 6-in. tube steel cross members between the longitudinals. The rear of the skid shall have 4-in. by 8-in. forklift pockets. The saddle and skid assembly shall be powder coat painted black.

2a. Sprayer Pump: Shall be a Hypro model 9203C OR EQUAL heavy duty centrifugal, capable of 90 PSI and 60 GPM. The pump will be belt driven from the engine. The pump mounting base must be slotted to allow the removal or adjustment of drive belt. A 40-mesh filter with a replaceable

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STAINLESS-STEEL screen will be installed in the pump pressure line. The pumping system must provide a minimum 75 PSI water pressure to the pressure regulators when operating nozzle assemblies either individually or simultaneously.

2b. Water Pump Power: Will be a minimum of 11 HP engine with remote electric start/stop. A group 24 Battery must be supplied and installed. The mounting location for the pumping system and battery must not limit access for normal maintenance.

3. BOOMLESS RADIAL MOUNT SPRAY HEADS: THE UNIT SHALL BE EQUIPPED a spray head which shall consist of two fixed position radial nozzle mounts designed to independently perform roadside turf and/or brush applications. Each radial mount shall run independently of the other to perform the two separate functions. The turf mount shall have a minimum of five (5) individual boom sections with no less than fourteen (14) nozzles located in a fixed position, along a radial arc, supplying a spray swath of 30' at 11 mph to ensure a streak free swath that does not alter due to wear. Swath widths of 6', 6', 6', 6', and 6' will be achieved with a combination of flat fan and straight stream nozzles. Flat fan nozzles must be attached to brass or stainless steel (poly or plastic will not be accepted) air injectors to provide large droplets and reduce drift. Flat Fan nozzles shall populate only the first two banks; the last three banks shall be populated with solid stream nozzles. The brush mount shall have a minimum of four (4) individual boom sections with no less that fifteen (15) nozzles located in a fixed position, along the radial mount, supplying a vertical spray swath of eighteen feet (18') at 11 mph to ensure a streak free swath that does not alter due to wear. Vertical swath widths start a ten (10') feet from the outside of the front tire. Swath widths of 54", 54", 54", and 54" will be achieved using straight stream nozzles. both mounts shall be up/down tilt able and in/out retractable (from the cab) for embankment spraying. four (4) liquid pressure gauges and four (4) pressure regulators shall be mounted in the front of the unit. The spray head pedestals shall be mounted on an adjustable brake socket to avoid damage to the spray head if contacted by an obstruction.

Note: All tips and/or plumbing shall be stainless steel or brass (no poly, plastic, or ceramic tips will be allowed with the exception of hoses).

4. Handgun Hose Reel: Shall include a hand crank reel, 100 ft. of ½-in. x 600 PSI chemical resistant hose and a Model Hypro Turbo hand gun OR EQUAL.

5. CONTROL CONSOLE: All electrical functions controllable by a switch (with the exception of chemical injection or GPS mapping) shall be housed in a single metal control console. All electrical connections shall be wired into the control console through a single multi-pin connector. THE CONSOLE SHALL BE NO GREATER IN SIZE THAT 10-INCHES BY 17-INCHES. IT SHALL CONTAIN ALL SWITCHES FOR DUAL SPRAY HEAD TILT AND RETRACTION, BEACON LIGHTS, WATER PUMP ON/OFF, BOOM VALVES, CHEMICAL TANK INDICATORS, CHEMICAL TANK AGITATORS, AGITATION PUMP ON/OFF, AND ROTORY SWITCH FOR AUTO AND HANDGUN. NO HARD WIRING TO THE CONSOLE SHALL BE ACCEPTED. ALL WIRING SHALL BE ADEQUATE TO SAFELY CARRY THE MAXIMUM AMPERAGE REQUIRED BY THE SYSTEM UNITS. ALL WIRING SHALL BE OF A STANDARD CODE AND COLOR FOR EACH MODEL UNIT. ALL WIRING SCHEMATICS SHALL BE IDENTICAL FROM VEHICLE TO VEHICLE. ALL FUSES SHALL BE CENTRALLY LOCATED IN THE CAB AND SHALL BE IDENTIFIED AS TO WHAT EACH FUSE CONTROLS.

6. Plumbing: Any excessive pressure drops or back pressure due to restrictions from under sized components will not be acceptable in the chemical or water pumping systems. All hosed and fittings will be rated to exceed by 50 percent any maximum operating pressures possible in their respective systems. Any hoses installed in locations where chaffing or other damage may occur must have protective coverings. All hoses will be adequately supported throughout the system.

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8. Warranty: A minimum of one-year parts and service will be furnished. Any components with a longer manufacturer warranty will be listed. Each unit shall include all inspection coupons, certificates, or warranty identification cards normally furnished to the trade in general accordance with standard warranty policies. Vendor must operate full time parts and service facility offering factory authorized service.

Manuals: One detailed set of parts, service and operator's manuals will be delivered with the sprayer. A plumbing schematic detailing sprayer component and their location will be supplied at the time of installation and training.

Training: Vendor will furnish a minimum of 4 hours training on operation and maintenance of the unit at a time and location mutually agreed upon by the vendor and purchaser.

Installation: Shall be at the Vendor's location with the purchaser delivering the vehicle and the vendor delivering the unit to the purchaser.

SPECIFICATIONS FOR THREE POINT HITCH TRACTOR MOUNTED SPRAYER

It is the intent of these specifications to describe a complete and operable three-point hitch spraying system for the controlled application of herbicides. The sprayer manufacturer or their local franchised dealer will install the system on a suitable eighty-five horse power or above tractor furnished by the purchaser.

Only new (unused) current standard production models built for the U.S. market will be considered acceptable. Printed literature and specifications describing equipment as offered must be included with proposal. Any recent changes and or features offered as standard or required for the intended use of the specified equipment will be supplied. All accessories required by these specifications shall be identical in quality and design to those normally supplied and installed for sale through regular commercial channels.

NOTE: Upon the Vendor receiving the purchase order for the equipment, the purchaser shall notify the Vendor of make and model of the tractor the equipment shall be mounted.

To be Roadside Inc RSI-200-3PHT-BB sprayer or equal

GENERAL DESCRIPTION: The basic spray system shall include a water tank, centrifugal spray pump, mounting frame, boom less spray nozzles, boom, and sprayer control system. All components in the water and chemical systems must be non-corrosive type, compatible with chemicals currently used by the purchaser.

1. Water Tank: Shall be a Trim-View poly tank or equal, size 200 gallons, 49" in length, 39" in height, and 24 ½" in diameter. The tank shall have molded in gallonage indicators, UV inhibitors added, ribbed for extra strength, end flat spots, and center sump for complete drainage. The tank shall have a full length sparger tube and by-pass. No round or elliptical tank will be allowed.

2. Mounting Frame: Shall be a heavy-duty frame built of 4" square tubing, full rolled tank cradle, hitch pins for category II or III and quick hitch capabilities. The frame shall have full plate skid underneath frame, steel straps, pump mounting bracket, and sprayer control stand. This frame shall be made to except a 150 gallon or 200-gallon tank. **No bolted in hitch pins will be allowed.**

3. Water Pump: Shall be a centrifugal type, hydraulically driven, with 1 ½" inlet and 1 ¼" outlet. All hydraulic hoses and hose to tractor ends shall be supplied with the unit. The pump type shall be a HYPRO 9303C-HM4 or equal. A high-pressure filter with a 40-mesh screen will be installed in the discharge line as close to the pump as practical (prior to the pressure reducing valves). The pumping system shall maintain water pressure at a constant level as required for the intended use. Mounting location for the water pump and related components must not limit access for normal maintenance. **NOTE:** The model and tractor size shall determine the model of the hydraulic driven pump.

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4. Electric Controls: The control console shall have 3-section boom switches (left, center, right), master on/off, pressure regulating switch, left and right, up & down actuator switches, 160 lb. liquid filled gauge, console mounted in cab of tractor with quick disconnect. The console shall be mounted in the cab by the purchaser.

5. Plumbing: The sprayer control system shall have three (3) electric diaphragm boom valves and an electric butterfly pressure control valve controlled by the console mounted inside of the cab. The unit must include all strainers, boom solenoids valves regulators, and connections to make sprayer functional. All hoses must be rated 50% higher than PSI or greater.

6. Spray Boom and Nozzles: The unit shall have a rear mounted spray boom with an eight (8) foot center spray width and two boomless nozzles (187 Boombuster or equal) mounted on each side with a spray coverage of eighteen (18) feet. The boomless nozzles shall be connected to a six (6) inch electric actuator for up-down vertical movement. The center boom section shall have five (5) turbo flood nozzles with a .4 GPM orifice. The nozzles shall be rated for 5 MPH, and 25 GPA.

7. Hose Reel: A hose reel shall be mounted on the rear of the 3-point hitch unit above the center spray bar and nozzles. The reel shall be a manual crank (Hanney # 15141718 or equal) with 100 ft. of ½" x 600 PSI hose and a # 43L spraying systems hand gun.

8. Warranty: The unit shall have a one (1) year or twelve (12) month warranty against workmanship or defects unless otherwise stated by the manufacture of components used. All warranty cards or evaluations shall be handled by the vendor.

9. Service: The vendor shall be responsible for mounting and testing unit on the purchaser's tractor at the vendor's location or the Purchaser's location. This will be determined by the vendor and the purchaser.

10. Manuals: A minimum of two (2) manuals and parts books shall delivered by the vendor.

11. Training: A minimum of four (4) hours training and maintenance shall be conducted at the purchaser's location with the agreement of the vendor.

SPECIFICATIONS FOR A PICKUP TRUCK SKIDMOUNT UNIT

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- 1. GENERAL:** THIS IS A SPECIFICATION OF SELF CONTAINED HERBICIDE SKID UNIT. THE SPRAY UNIT SHALL BE PICKUP MOUNTED AND SHALL CONSIST OF A WELDED STEEL FRAME, TANK, PUMP/ENGINE UNIT, HOSE REEL WITH A HERBICIDE HAND GUN
- 2. SPRAYER SKID UNIT:** RSI-200E-SKD OR EQUAL
- 3. FRAME:** THE SKID FRAME SHALL BE MADE OF STRUCTURAL STEEL, 4-POINT D RING MOUNTS, STEEL RACKS FOR PUMP/ENGINE, AND HOSE REEL. FRAME TO BE COATED WITH A RESIN BASED EXPOXY WITH A NON-SKID SURFACE.
- 4. TANK:** THE TANK SHALL BE A 200 GALLON SPACE SAVER POLY TANK DESIGNED TO MAXIMIZE PICKUP BED SPACE. THE PUMP/ENGINE AND HOSE REEL SHALL MOUNT TO THE TANK & ON EACH SIDE OF THE TANK. THE TANK DOES NOT COMPLETELY EVACUATE DUE TO FLAT BOTTOM DESIGN.
- 5. AGITATION:** THE TANK SHALL HAVE JET AGITATION

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6. **ENGINE AND PUMP:** THE ENGINE AND PUMP SHALL BE A 7 HP ELECTRIC START KOHLER ENGINE WITH A CLOSE COUPLED GEAR REDUCTION DIAPHRAM PUMP THAT WILL PRODUCE A MAX. OF 270 PSI. AND A MAX. 22 GPM. THE UNIT SHALL HAVE A 15 FT. POWER LEAD WITH BREAKER FOR THE ENGINE AND HOSE REEL.
7. **MANIFOLD SYSTEM:** THE CONTROL MANIFOLD SHALL BE BOLTED ON THE PUMP WITH OIL FILLED GAUGE, TWO (2) ½" OUTLETS, PRESSURE REGULATOR, AND RETURN-BYPASS
8. **HOSE REEL:** AN ELECTRIC HOSE REEL WITH 200 FEET OF ½" X 600 PSI HOSE AND HOSE GUIDE ROLLERS SHALL BE INSTALLED ON THE SIDE OF THE TANK.
9. **HAND GUN:** THE UNIT WILL BE EQUIPPED WITH A TURBO GUN OR EQUAL
10. **PLUMBING:** ALL PLUMBING, HOSES, CLAMPS AND FILTERS SHALL BE USED TO COMPLETE OPERATION OF THE UNIT. THE UNIT SHALL BE COMPLETE AND FUNCTIONAL.
11. **Warranty:** The unit shall have a one (1) year or twelve (12) month warranty against workmanship or defects unless otherwise stated by the manufacture of components used. All warranty cards or evaluations shall be handled by the vendor.
12. **Manuals:** A minimum of two (2) manuals and parts books shall delivered by the vendor.
13. **Training:** A minimum of four (4) hours training and maintenance shall be conducted at the purchaser's location with the agreement of the vendor.

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